

ESSAY Reproductive

HISTOLOGY



MEDICAL BUFFER

- 1- **enumerate the cells lining the seminiferous tubules and their function.**
 - 1) Spermatogenic cells; spermatogenesis
 - 2) Sertoli cells:
 - a) Secretion of ABP
 - b) Secretion of inhibin hormone
 - c) Support, protect, and nutrition of the spermatogenic cells
 - d) tight junctions between the lateral borders of the adjacent Sertoli cells act as a blood-testis barrier.
- 2- **Enumerate the components and the function of the blood testes barrier.**

Its divided into two compartments

 - a) Inner compartment containing → primary and secondary spermatocytes, spermatids and spermatozoa
 - b) outer compartment containing spermatogonia

function of the blood testes barrier:

 - a) isolates and protects the spermatocytes spermatids and spermatozoa from any damaging substances present in blood
 - b) Selects the nutrients, the hormones, the proper fluid needed for the growth and differentiations of spermatogenic cell
- 3- **Mention the extra testicular genital ducts and the function of each one of them.**
 - 1) Epididymis:
 - a) absorption of the excess fluid surrounding the sperms
 - b) secretion of substances to aid sperms maturation
 - c) phagocytosis
 - d) transfer the of sperms to vas deferens during ejaculation
 - e) capacitation and decapacitation function
 - 2) vas deferens: convey spermatozoa form epididymis to ejaculatory duct
 - 3) ejaculatory ducts

4- Mention the accessory male genital ducts and their function

- 1) Seminal vesicles: secretes 70% of seminal fluid containing fructose and prostaglandins
- 2) Prostate: secrete prostatic fluid rich in citric acid and prostate specific antigen
- 3) Bulbo-urethral gland of Cowper: secretes very viscid mucous which lubricate the penile urethra

5- Mention the zone of the prostate gland

- 1) The mucosal glands: transition zone → small in size around the urethra
- 2) Submucosal gland: central zone → medium sized
- 3) The main prostatic: peripheral zone → form the main bulk of the prostate, large in size

6- Mention the layers of the epithelium lining of the epididymis and their function

- 1) Principal cells:
 - a) they absorb about 70% of the excess fluid surrounding the sperms
 - b) Phagocytose remnants of spermatogenic cells
 - c) Synthesize a glycoprotein to inhibit capacitation of the sperms until they reach the female genital tract
- 2) Basal cells : stem cells of the principal cells

ANATOMY

1- Mention the covering of the testis?

From inner to outer surface

1) Three special layers:

a-Tunica vasculosa: innermost vascular layer

b-Tunica albuginea fibrous capsule (white coat).

c- Tunica vaginalis:

1. (visceral layer)

2. (parietal layer)

2) Three layers of the abdominal wall:

a-Internal spermatic fascia.

b-Cremastric muscle and fascia.

c- External spermatic fascia.

3) cutaneous and subcutaneous coats

a-External Spermatic Fascia

b-DARTOS Muscle

c-Skin

2-Mention the contents of the spermatic cord?

3 Arteries

- Testicular a. (from Abdominal Aorta at the level of L2)

- Artery of Vas Deferens (Deferential a.)

- Cremasteric artery.

3 Nerves

- Genital branch of Genitofemoral nerve - (L1-2)

- Sympathetic nerves (from Testicular plexus)

- (Ilioinguinal n.-L1)-(DOESN'T actually travel in cord)

3 Other Structures

- Vas Deferens

- Testicular lymph vessels

- Tunica Vaginalis

1 Venous Plexus

Pampiniform plexus

3- Mention the lobes of the prostate?

- 1- Anterior lobe (Isthmus of the prostate)
- 2- Posterior lobe
- 3- Median lobe
- 4- Two Lateral lobes

PHYSIOLOGY

Enumerate four functions of testosterone in adult life?

A- Effect on sex organs:

- 1- Growth of the testes.
- 2- Growth & maintenance of 2ry sex organs.
- 3- Spermatogenesis.
- 4- Inhibits LH secretion: by 2 actions:
 - a. Inhibits GnRH secretion from hypothalamus.
 - b. Direct action on the anterior pituitary

B- Effect on secondary sexual characters:

- 1- Effect on muscular growth: anabolic
- 2- Effect on hair distribution: Testosterone causes male type of hair distribution
- 3- Effect on basal metabolic rate: $\uparrow$ 5% to 10%
- 4- Effect on electrolyte and water balance: aldosterone-like effect.
- 5- Effect on blood: $\uparrow$ Erythropoiesis & $\uparrow$ blood volume
- 6- Characteristic male distribution of fat.
- 7- Required for sex drive (libido).
- 8- Enhances initiative and aggressive behavior.

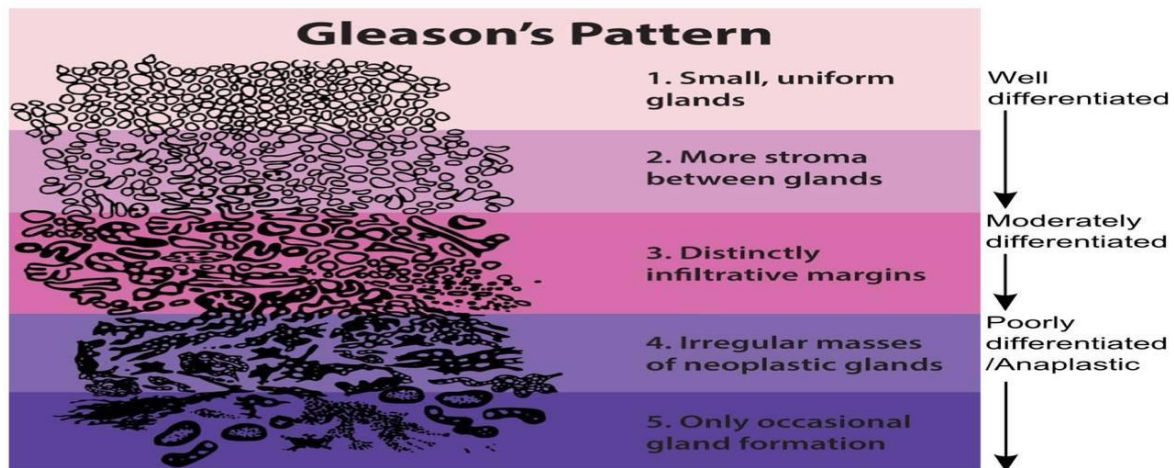
PATHOLOGY

1- What is the Gleason grading system, and how is it applied in the diagnosis of prostatic carcinoma?

1. Small, uniform glands
2. More stroma between glands
3. Distinctly infiltrative margins
4. Irregular masses of neoplastic glands
5. Only occasional gland formation

Each number describes the differentiation and then the most 2 common patterns are summed up

With summation of the score e.g. $3+4=7$



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2- Describe the gross picture and the characteristic microscopic features of benign prostatic hyperplasia?

Gross description

- Enlarged gland
- Site: Early; the transitional zone, compress the centrally located urethral lumen.
- Size: Enlarged
- Shape: Nodular
- Consistency: Firm with intact capsule.

Microscopic description

Variable sized nodules composed of proliferating glands and fibromuscular stroma

Glands: Hyperplasia shows eosinophilic concretion intraluminal CALLED corpora amylacea

- Proliferation of both stromal and epithelial cells.
- lined by two layers:
 - a- Inner single or more layers of columnar epithelium which may project in the lumen forming papillary projections.
 - b- Outer flattened epithelium

MEDICAL BUFFER